

1 CLAIMS

2 *Sub a1* 1. A method for synchronizing streaming content with enhancing
3 content comprising the following steps:

4 receiving an announcement containing information specifying how and
5 when to receive upcoming enhancing content, the announcement being sent at a
6 time prior to sending the enhancing content, the enhancing content being
7 associated with the streaming content;

8 receiving the streaming content;

9 receiving the enhancing content according to the information contained in
10 the announcement and at a time in synchronization with the streaming content; and
11 enhancing the streaming content with the enhancing content.

12
13 2. A method as recited in claim 1, wherein the announcement contains
14 parameters selected from a group comprising: a broadcast locator, a time when the
15 corresponding enhancing content is to be sent, a protocol, an identity of the
16 streaming content that the enhancing content enhances, and a page that contains a
17 starting point for the enhancing content.

18
19 3. A method as recited in claim 1, wherein the enhancing content
20 comprises triggers and data files, the method further comprising the following
21 steps:

22 receiving the data files; and

23 receiving the triggers at times in synchronization with the streaming
24 content, the triggers causing operations involving the data files in order to timely
25 introduce the enhancing content with the streaming content.

1
2 4. A method as recited in claim 3, wherein the enhancing content further
3 comprises dependency files that contain instructions to present content contained
4 in the data files, the method further comprising the step of delivering the data files
5 together with the dependency files in a cabinet (CAB) file format.

6
7 5. A method as recited in claim 1, wherein the receiving steps comprise
8 the step of receiving the streaming content and the enhancing content in a
9 composite stream of one source.

10
11 6. A method as recited in claim 1, wherein the receiving steps comprise
12 the following steps:

13 receiving the streaming content from a first source; and

14 receiving the enhancing content from a second source different from the
15 first source.

16
17 7. A method as recited in claim 1, further comprising the step of
18 displaying the enhancing content as a ticker.

19
20 8. A computer-readable medium having computer-executable
21 instructions for performing the steps of the method as recited in claim 1.
22
23
24
25

1 9. A method for synchronizing streaming content with enhancing
2 content comprising the following steps:

3 forming announcements containing information specifying a first address
4 and a time at which to receive upcoming triggers;

5 sending the announcements to a second address;

6 monitoring the second address to receive the announcements;

7 filtering the announcements to retain selected announcements;

8 monitoring the first address at the time specified in the selected
9 announcements to receive the triggers; and

10 processing the triggers to coordinate presentation of the enhancing content
11 with the streaming content.

12
13 10. A method as recited in claim 9, wherein the forming step comprises
14 the step of creating an announcement to contain parameters selected from a group
15 comprising: a broadcast locator, a time when a corresponding trigger is to be
16 broadcast, a broadcast protocol, an identity of the streaming content that the
17 enhancing content enhances, and a page that contains a starting point for the
18 enhancing content.

19
20 11. A method as recited in claim 9, wherein the processing step
21 comprises the step of receiving the enhancing content according to a
22 predetermined protocol and storing the enhancing content.

1 **12.** A method as recited in claim 9, wherein the processing step
2 comprises the step of navigating within a container HTML page.

3
4 **13.** A method as recited in claim 9, wherein the processing step
5 comprises the step of invoking a script within a container HTML page.

6
7 **14.** A method as recited in claim 9, further comprising the step of
8 sending the enhancing content together with the triggers.

9
10 **15.** A method as recited in claim 9, further comprising the step of
11 delivering the streaming content, the enhancing content, and the triggers from a
12 same source.

13
14 **16.** A method as recited in claim 9, further comprising the following
15 steps:

16 delivering the enhancing content from a first source; and
17 delivering the streaming content and the triggers from a second source
18 different from the first source.

19
20 **17.** A method as recited in claim 9, further comprising the step of
21 displaying the enhancing content together with the streaming content.

22
23 **18.** A method as recited in claim 9, wherein the enhancing content
24 comprises a ticker, and further comprising the following steps:

25 delivering triggers that contain items for the ticker;

1 displaying the ticker together with the streaming content; and
2 presenting the items from the triggers within the ticker.

3
4 19. Computer-readable media distributed at a content provider and a
5 client and having computer-executable instructions for performing the steps of the
6 method as recited in claim 9.

7
8 20. A method comprising the following steps:
9 displaying streaming content;
10 monitoring an announcement address to receive announcements pertaining
11 to enhancing content for enhancing the streaming content, the announcements
12 containing information that specify a trigger address and times at which to receive
13 upcoming triggers;
14 filtering the announcements to retain selected announcements;
15 storing the selected announcements;
16 monitoring the trigger address at the times specified in the selected
17 announcements to receive corresponding triggers; and
18 processing the triggers to cause one of the following events to occur: (1)
19 receive one or more data files having the enhancing content, or (2) utilize the
20 enhancing content in the data files to enhance the streaming content.

21
22 21. A method as recited in claim 20, further comprising the step of
23 ~~caching the data files.~~

1 22. A method as recited in claim 20, further comprising the step of
2 presenting the streaming content and the enhancing content using an HTML page.

3
4 23. A method as recited in claim 20, further comprising the following
5 steps:
6 using information from the trigger to invoke a script; and
7 executing the script to enhance the streaming content.

8
9 24. A method as recited in claim 20, further comprising the following
10 steps:
11 receiving triggers that contain items for a ticker;
12 displaying the ticker together with the streaming content; and
13 presenting the items from the triggers within the ticker.

14
15 25. A computer-readable medium having computer-executable
16 instructions for performing the steps of the method as recited in claim 20.

17
18 26. A method comprising the following steps:
19 monitoring an IP (Internet Protocol) address to receive triggers, each trigger
20 containing at least one item for a ticker;
21 forming an array of the items received in the triggers; and
22 displaying the array within the ticker.

1 27. A method as recited in claim 26, further comprising the step of
2 receiving announcements at another IP address, the announcements being used to
3 announce upcoming transmissions of the triggers.

4
5 28. A computer-readable system having computer-executable
6 instructions for performing the following steps:

7 monitoring an announcement address to receive announcements pertaining
8 to enhancing content for enhancing the streaming content, the announcements
9 containing information that specify a trigger address and a time at which to receive
10 upcoming triggers;

11 filtering the announcements to retain selected announcements;

12 monitoring the trigger IP address at the time specified in one of the selected
13 announcements to receive a corresponding trigger; and

14 processing the trigger to cause utilization of the enhancing content to
15 enhance the streaming content.

16
17 29. A computer-readable system having computer-executable
18 instructions for performing the following steps:

19 monitoring an IP address to receive triggers, each trigger containing at least
20 one item; and

21 presenting a ticker that contains the items.

22
23 30. A system for synchronizing streaming content with enhancing
24 content, comprising:

25 ~~at least one content server;~~

1 a client;

2 the content server being configured to form announcements that contain
3 information specifying an IP address and a time at which to receive upcoming
4 triggers, the content server sending the announcements to the client; and

5 the client being configured to receive the announcements and monitor the
6 IP address at the time specified in the announcements to receive the triggers, the
7 client processing the triggers to coordinate presentation of the enhancing content
8 with the streaming content.

9
10 **31.** A system as recited in claim 30, wherein the announcements contain
11 parameters selected from a group comprising: a broadcast locator, a time when a
12 corresponding trigger is to be broadcast, a broadcast protocol, an identity of the
13 streaming content that the enhancing content enhances, and a page that contains a
14 starting point for the enhancing content.

15
16 **32.** A system as recited in claim 30, wherein the client receives the
17 enhancing content according to a predetermined protocol and caches the enhancing
18 content.

19
20 **33.** A system as recited in claim 30, wherein the client uses information
21 from the trigger to navigate within a container HTML page.

22
23 **34.** A system as recited in claim 30, wherein the client uses information
24 from the trigger to invoke a script within a container HTML page.
25

1 35. A system as recited in claim 30, wherein the content server delivers
2 the streaming content, the enhancing content, and the triggers.

3
4 36. A system as recited in claim 30, wherein the content server delivers
5 the enhancing content and the triggers, and further comprising a second content
6 server to deliver the streaming content.

7
8 37. A system as recited in claim 30, wherein the triggers contain items
9 for a ticker and the client displays the ticker together with the streaming content.

10
11 38. A client software architecture, comprising:
12 a video control to play video content;
13 a listener to monitor an announcement IP (Internet Protocol) address to
14 receive announcements pertaining to enhancing content for enhancing the video
15 content, the announcements containing information that specify a trigger IP
16 address and times at which to receive upcoming triggers;

17 the listener further monitoring the trigger IP address at the times specified
18 by the announcements to receive corresponding triggers; and

19 a rendering component to present the video content and to enhance the
20 video content with the enhancing content according to instructions received in the
21 ~~triggers.~~

1 **39.** A client software architecture as recited in claim 38, further
2 comprising a storage to hold the announcements in correlation with an identity of
3 the video content.

4
5 **40.** A client software architecture as recited in claim 38, further
6 comprising a cache to hold the enhancing content.

7
8 **41.** A client software architecture as recited in claim 38, wherein the
9 listener and video control are contained within an HTML page rendered by the
10 rendering component.

11
12 **42.** A client software architecture as recited in claim 41, wherein the
13 HTML page also has one or more scripts to process the instructions contained in
14 the triggers.

15
16 **43.** A client software architecture, comprising:
17 a first code segment for monitoring a broadcast or multicast IP address to
18 receive triggers, each trigger containing at least one item for a ticker; and
19 a second code segment for rendering the ticker with the items received via
20 ~~the triggers.~~